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东喜马拉雅引人注目的高等真菌和新种

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摘要 本文发表了东喜马拉雅包括横断山区的高等真菌5新种，计：西藏羊肚菌 *Morchella tibetica* Zang，独龙江裸伞 *Gymnopilus dulongjiangensis* Zang，美孢锈盖菇 *Cuphocybe calospora* Zang，小美口菌 *Calostoma miniata* Zang及干巴菌 *Thelephora ganbajun* Zang；并讨论了干巴菌与锈球菌 *Sparassis crispa* (Wulf.) Fr.的异同。

关键词 真菌分类；东喜马拉雅

在东喜马拉雅的南坡墨脱地区、滇藏接壤的独龙江流域、滇东北、滇中及川西等地，从1981至1985年，先后进行过多次有关真菌的调查采集，本文根据王立松、陈可可、苏永革、宣宇、张大成、袁明生、黎兴江和作者所采该区部分标本，将其中部分新分类群，发表如后。

1. **西藏羊肚菌** 新种 图1：1—3

Morchella tibetica Zang, sp. nov. Fig. 1：1—3

Ascocarpus solitarius. Pileus campanulatus vel conicus, 3—4.5 cm longus, 2—3 cm latus. Hymenium costis elevatis cellulosum, lacunosum, persistens, suffultus. Ad materiam sporiferam aurantiaco-olivaceam. Receptaculum aurantiaco-brunneolum, minime granuloso-verrucosum, clavatum, subcavum, 7—10 cm longum, 1.5—2.2 cm latum. Asci fixi. Ascosporae anguste ellipticae, levigatae, strictae, 28—33×16—20 μm, hyalinae. Oder debilis saporque gratus, esculentus.

Habit.: In terram, crescit inter frutices in sylvis frondosis.

Xizang (Tibet): Médog 1700 m alt. 4 V 1983. Su Yong-ge 3940 (HKAS 16340 Typus)

子囊果单生。菌盖钟状或圆锥状，长3—4.5厘米，阔2—3厘米。子实层具脉络状隆起切割成穴室状，腔隙宿存，位于柄的顶端。造孢组织橙黄色至橄榄褐色。子层托橙黄色，褐色，外表具小疣粒状突起，棍棒状，中空，高7—10厘米，阔1.5—2.2厘米。子囊排列紧固。子囊孢子狭椭圆形，光滑，在子囊内彼此靠拢，28—33×16—20微米，无色透明。无明显气味，口尝味美。食菌。

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生于阔叶林下灌丛间的土上。

西藏：墨脱，海拔1700米。4 Ⅴ 1983，苏永革3940（模式，HKAS 16340）.

本种与*Morchella angusticeps* Peck相近似[2]。但其不同点在于全株呈橙黄色，且菌柄密被小疣粒状突起，见于热带。

2.独龙江裸伞 新种 图1：4—5

Gymnopilus dulongjiangensis Zang, sp. nov. Fig. 1：4—5

Pileus 5—7 cm latus, conico-convexus, demum subplanus, appreso-squamulosus vel fibrilloso-tomentosus, fulvidus, cinnamomeus vel obscure cinnamomeus. Lamellae distantes, regulares, decurrentes, flavidae. Contextus albo-flavidus, immutabilis. Stipes 6—9 cm longus, 0.8—2 cm crassus, subcylindricus vel subclavatus, scabroso-furfuraceus. Basidiosporae 6—7.8×7.8—10.4 μm brunneae, globosae, ovideae vel ellipsoideae, tuberculosae.

Habitat: Ad truncos prostratos putrescentes saepe cum aliis muscisque.

Yunnan: Dulongjiang, Qiqi, 2000 m. alt. 20 Ⅶ 1982. Zhang Da-cheng 129. (HKAS 10668 Typus)

菌盖阔5—7厘米，圆锥形至中央凸起，后期近平展，外被伏生鳞片或纤细绒毛，黄褐色，肉桂色至暗肉桂色。褶片离生，规则，下延，黄褐色。菌肉淡黄白色，伤后不变色。菌柄长6—9厘米，粗0.8—2厘米。近圆柱形或近棍棒形，外被秕糠状鳞片。担孢子6—7.8×7.8—10.4微米，褐色，圆形，卵形至椭圆形，壁具疣突。生于密布藓类的树干上。

云南：独龙江，其期，海拔2000米。20 Ⅶ 1982，张大成129(模式HKAS 10668)。

本种与*Gymnopilus* (*Dermocybe*) *holoxantha* Gruber et Moser近似[5]。但菌盖不呈艳柠檬黄色而是锈褐色、黄褐色、肉桂色，且担孢子具锐壮的刺突。

3.美孢锈盖菇新种 图1：6—8

Cuphocybe calospora Zang, sp. nov. Fig. 1：6—8

Pileus 4—5.5 cm convex, acuminatus vel umbonatus, brunneus, castaneus vel umbrinus, humidus vel viscidulus, laevis vel obscure ruguloso-striatus, marginem obtritus vel segmentatus. Lamellae adnatae, crenulatae ex argillaceoferrugineae. Stipes 7—8 cm×1.2—1.4 cm (2.5 cm ad basim), cylindricus, subbulbosus, cavus, ochraceo-ferrugineus vel brunneus. Basidiosporae 15—17×9—10.5 μm, ellipsoideae, ferrugineae, verruculosae vel corrugatae. Baidia 35—50×20—26 μm clavatae, 4-sporae. Pleurocystidia 50—70×20—25 μm, clavatae vel ventricosae.

Habitat: In sylvis praecipue Quercetis rehderianae Handel-Mazz. 3350—4000 m alt.

Sichuan: Muli, 3350 m alt. 27 Ⅶ 1983. Chen Ko-ko 809 (HKAS 13161 Typus)

菌盖直径4—5.5厘米，中凸，顶部渐尖或具脐状凹陷，褐色、栗色或暗棕色。盖

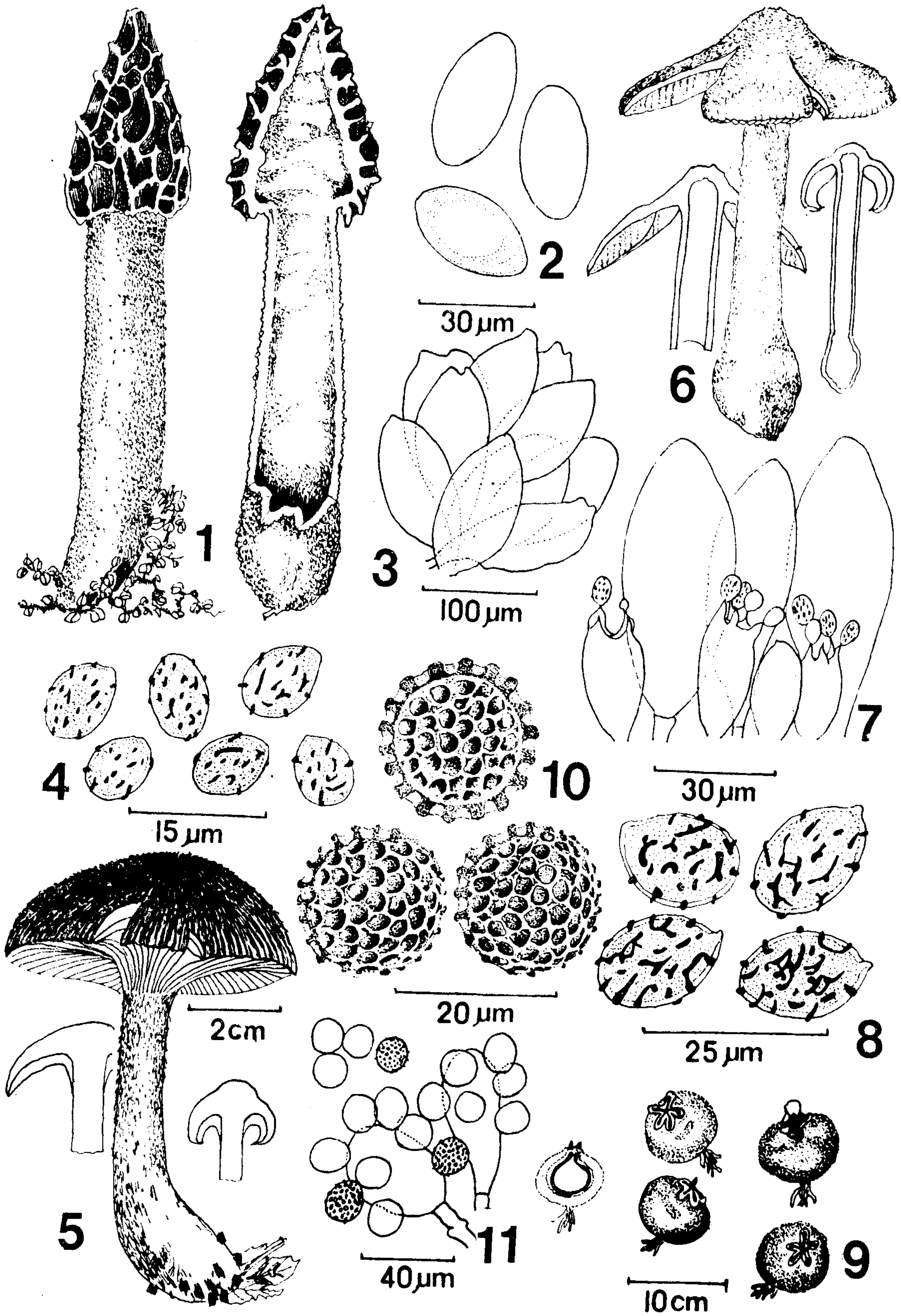

Fig 1. 西藏羊肚菌 *Morchella tibetica* Zang, sp. nov.; 1. Ascocarps, 2. Ascospores, 3. elements of stipe surface; 独龙江裸伞 *Gymnopilus dulongjiangensis* Zang, sp. nov.; 4. Basidiospores, 5. Basidiocarps; 美孢锈盖菇 *Cuphocybe calospora* Zang, sp. nov. 6. Basidiocarps, 7. Pleurocystidia and basidia, 8. Basidiospores; 小美口菌 *Calostoma miniata* Zang, sp. nov.; 9. Basidiocarps, 10. Basidiospores, 11. Basidia and basidiospores.

表湿润或微粘，光滑，具微绉的放射条纹，盖缘易撕裂多呈裂片状。菌褶贴生，常具斑点，粘土色至褐锈色。柄高7—8厘米，粗1.2—1.4厘米，基部粗2.5厘米。圆柱状，基部微呈臼状，中空，淡黄褐至褐锈色或褐色。担孢子15—17×9—10.5微米，椭圆形，锈褐色，具疣突和皱折状突起。担子35—50×20—26微米，棒状，具孢子四枚。侧缘囊状体50—70×20—25微米。棒状或腹鼓状。

生于高山栎*Quercus rehderiana* Hand-Mazz.根际，与之有外生菌根关系。

四川：木里，913林场林下，海拔3350米，27 Ⅷ 1983，陈可可809（模式HKAS 13161）。

本种与*Cuphocybe ferrugunea* Horak相似[3]。但后者孢子小（12.5—15×8—9.5微米），生于*Fagus*林下，仅见于热带新几内亚。应予阐明的是，锈盖菇属*Cuphocybe* Heim被认为是分布于南半球的一个属，但R. Singer[6]认为可能与圆头伞属*Descolea* Sing是同物异名，但置信与否迄今尚无定论，且以上两属仍兼存并用[3]，现知在横断山区出现此南半球的属，是颇值得重视的。

4.小美口菌 新种 图1：9—11

Calostoma miniata Zang, sp. nov. Fig. 1：9—11

Exoperidium globosum vel subglobosum, 5—7 mm altum, 6—8 mm latum, fuscidulum, fulvidum, demum ochraceum, minime granuloso-verrucosum, basi sessile, prominentiam rhizomorphum formans. Ostiolum planum, cinnabarinum, 5-fissum. Basidiosporae globosae, 17—20 μm diam. reticulatae vel foveolatae.

Habitat: In terram, saepe cum aliis muscisque.

Sichuan: Miyi, Malong, 2800 m alt. 9 Ⅶ 1983. Wang Li-song 726. (HKAS 12566 Typus)

外包被圆形或近圆形，5—7毫米高，6—8毫米阔，淡褐色、淡黄褐色，后期呈褐黄色，外表具细小颗粒状疣突，基无柄，假根成丛而宿存。顶端口孔偏平，朱砂色，5裂。担孢子圆形，直径17—20微米，具网络状或凹穴状纹饰。

生于有苔藓植物的土上。

四川：米易，麻陇，海拔2800米。9 Ⅶ 1983，王立松726（模式HKAS 12566）。

本种近似*Calostoma orirubra* Cooke[4]。但本种菌体极小，直径仅6—8×5—7毫米，无柄，且孢子又较大（17—20微米）具网络状或凹穴状纹饰。

5.干巴菌（滇中一带传统名称）新种 图2：1—5

Thelephora ganbajun Zang, sp. nov. Fig. 2：1—5

Receptacula 5—14 cm alta, 4—14 cm lata, caespitosa, clavarioideae multiramosa, e trunco crasso ramis ramulisque anguste flabellatis ascendentibus fastigiata, griseo-alba vel griseo-nigra. Truncus 2—2.5×2.5—4 cm, haud tomentosus, annulatus, radicatus. Ramus 2—5 cm altus, 2.5—4.5 cm latus. 0.2—0.4 cm crassus. hinc inde interconnexis. Ramulus 3—9 cm altus, 0.5—2 cm latus, multifidus vel dichotomus. Hymenium inferum sicco griseo-album

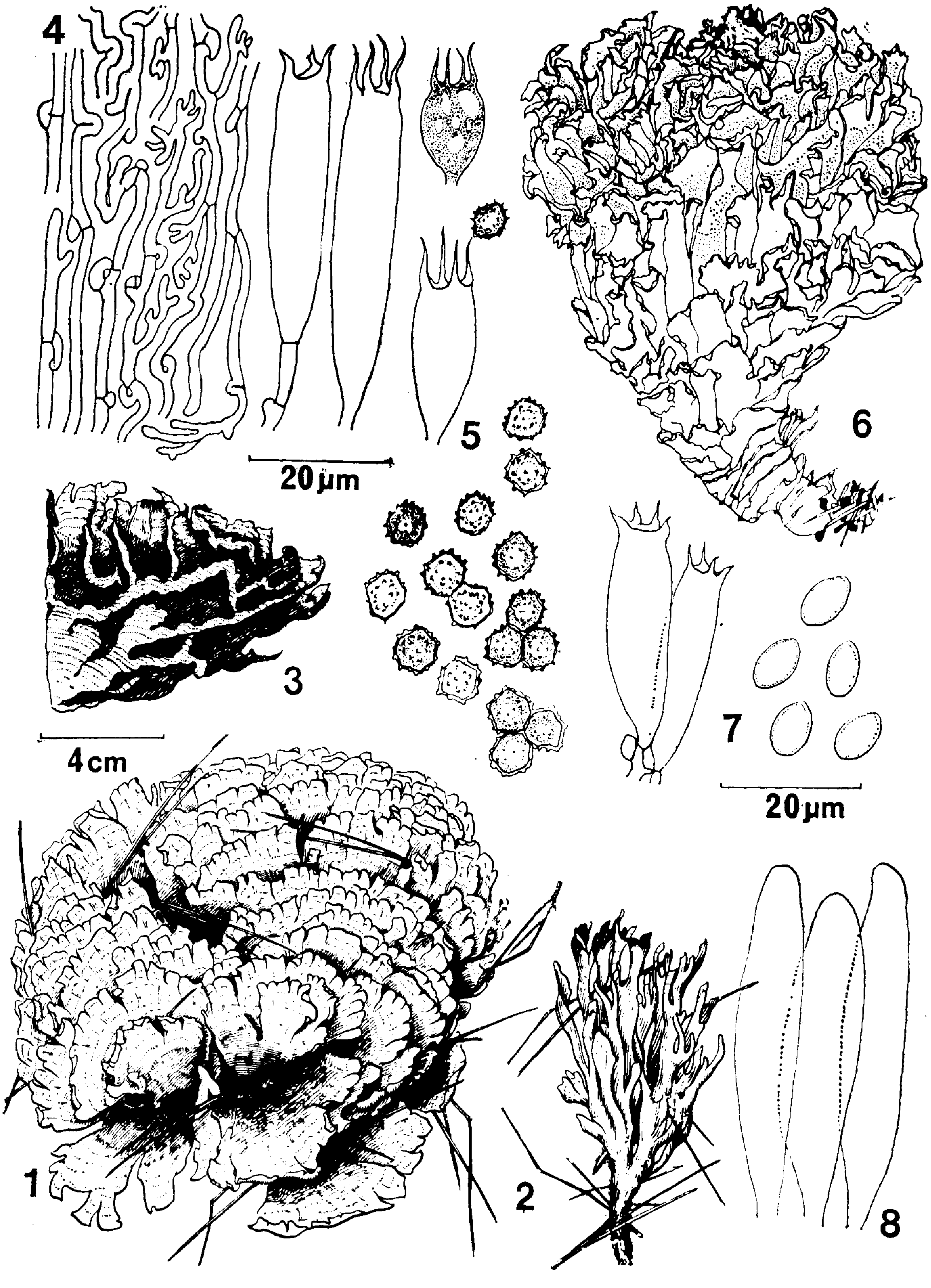

Fig 2. 干巴菌 *Thelephora ganbajun* Zang, sp. nov.; 1—3. Basidiocarps, 4. subicular hyphae, 5. Basidia and basidiospores; 锈球菌 *Sparassis crispa* (Wulf.) Fr.: 6. Basidiocarp, 7. Basidia and basidiospores, 8. Cystidia. (1—3. del. by Zhang Da-cheng 张大成)

vel griseo-fuligineus. Basidiosporae 7—12×6—8 μm, hyalino-brunneae, angulatae, echinulatae, 1-gullatae (sicco), haud amyloideae. Basidia 25—35×9—12 μm elongato-clavata; multiguttulata, sterigmatibus 3—8 μm longi, robusti, ad basim 1.5—2 μm lati. Cystidia 52—80×7—14 μm clavata vel subventricosa. Hyphae 4—6.5 μm latae, fibulatae, hyalinae, tortuosae. Caro crassa fibrosa. Oder et sapor gratus, esculentus, ectomycorrhiza.

Habit.: In Pinetis yunnanensis Fr. vel Pinetis kesiyae Royle ex Cord. var. langbianensis (A. Chev.) Gaussen.

Yunnan: Simao, 1700 m alt. 19 Ⅸ 1985. Li Xing-jiang (HKAS 10484 Typus). Yuxi Xian. 1900 m alt. 3 Ⅸ 1985; Kuo Shiu-chien 85013 (HKAS 14857); Jinning Xian, Taichi Shan. 1800 m alt. 9 Ⅶ 1985. Xio Guo-ping 1 (HKAS 14624); Jinning Xian, 1800 m alt. 13 Ⅸ 1985. Kuo Shiu-chien 85014 (HKAS 14704); Dongchuan, 1600 m alt. 14 Ⅸ 1985. Zang Mu 10481 (HKAS 14708); Lufeng Xian, Yipinglang, 2000 m alt. 10 Ⅸ 1985. Zang Mu 10483 (HKAS 14734).

子层托高5—14厘米，阔4—14厘米，丛生，珊瑚状多次分枝，由基部较厚的干片向上依次裂成扇形以至带状小分枝，灰白色或灰黑色。基部的干片高2—2.5厘米，阔2.5—4厘米，无毛绒，具环纹，下端具根状菌丝。中部的枝片高2—5厘米，阔2.5—4.5厘米。肉厚0.2—0.4厘米。枝片间互相于基部结联。顶端的小枝片高3—9厘米，阔0.5—2厘米。多回分枝或双叉分枝。子实层干燥，灰白色或灰褐色。担孢子7—12×6—8微米，透明微具淡褐色，多角形，有刺突，油滴一枚，非淀粉质。担子25—35×9—12微米，长棒形，内具多枚油滴，担子小柄长3—8微米，挺直，小柄基部粗1.5—2微米。囊状体52—80×7—14微米，长棒状或长腹鼓状。菌丝粗4—6.5微米，具锁状联合。透明，尖端多扭曲。菌肉纤维质，气味香美。食菌。外生菌根菌。

生于云南松*Pinus yunnanensis* Fr.和思茅松*Pinus kesiya* Royle ex Cord. var. *langbianensis* (A. Chev.) Gaussen根际，与松属有外生菌根关系，主要限于600—2300米间的松林下，主要是云南松林。

云南：思茅、海拔1700米，思茅松下。19 Ⅸ 1985，黎兴江(模式HKAS 10484)；玉溪，1900米，云南松林下，3 Ⅸ 1985，郭秀珍85013 (HKAS 14857)；晋宁，太祁山，9 Ⅶ 1985，肖国平1 (HKAS 14624)；晋宁，1800米，13 Ⅸ 1985，郭秀珍85014 (HKAS 14704)；东川，14 Ⅸ 1985，臧穆10481 (HKAS 14708)；禄丰，一平浪，2000米，10 Ⅸ 1985，臧穆10483 (HKAS 14734)。

干巴菌是生于云南松林下的一类传统食菌，多年来对其学名的袭用，采以锈球菌*Sparassis crispa* (Wulf.) Fr.一名，因其外形均呈片状丛生，体形近似，以外形取名，致以张冠李戴，以讹传讹[7－9]。1981年作者检阅了H. Patouillard (1853号)所鉴定的24 X 1886 Thecheuly所采而现存Farlow标本馆中的*Sparassis crispa* (Wulf.) Fr.见该标本虽将近百年，但外形无恙，乳白色，绝无灰黑色基调，其孢子虽多已失落和皱缩，但仍为椭圆形且孢壁光滑。1984年纪大干在云南省中甸碧鼓又采到了锈球菌

(HKAS 16741)，其色泽外形与H. Patouillard 1853号酷似，孢子椭圆形，孢壁光滑，实属*Sparassis crispa* (Wulf.) Fr.(图2：6—8)且已获培养成功。这显然不是云南传统常食的干巴菌。干巴菌的孢子是多角形、壁具疣突、与云南松有菌根关系，多次培养未获成功，应属于革菌属*Thelephora*。本种近似*Thelephora robusta* Corner[1]，但孢子不呈紫褐色，且担子较短，长仅25—35微米，而*Thelephora robusta* Corner的担子则长达75—100微米。故将本种立为新种，由于西南民间传统以干巴菌命名，故学名种加词以此音沿用。

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SOME NEW AND NOTEWORTHY HIGHER FUNGI FROM EASTERN HIMALAYAS

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Abstract Five new species of fungi are collected in several localities from Eastern Himalayas of China during 1981—1985. The following new descriptions are proposed:

1. *Morchella tibetica* Zang seems to be closely related to the *Morchella angusticeps* Peck, which has conical pileus and somewhat larger spores, but the orange-coloured, the stipe always with roughly surface and occur in tropical area, which are some clear differences.

2. *Gymnopilus dulongjiangensis* Zang is remarkable for its rust brown

or deep cinnameus pileus, spores with sharp and sturdy spines, that is distinguish it immediately from *Gymnopilus* (*Dermocybe*) *holoxantha* Gruber et Moser, which the pileus always is bright lemon yellow, and usually occur under the coniferous woods, not on the trunk.

3. *Cuphocybe calospora* Zang is close to *Cuphocybe ferruginea* Horak, but may be distinguished from the latter by its larger spores (15—17× 9—10.5 μm), the spores of latter only 12.5—15× 8—9.5 μm, there are also a clear difference occur in different localities and woods, the *Cuphocybe calospora* is distributed in alpine region, unerd *Quercus rehderiana* Hand-Mazz., but the *Cuphocybe ferruginea* Horak is occurs under *Fagus* in tropical New Guinea.

4. *Calostoma miniata* Zang resembles *Calostoma orirubra* Cooke, being similar in the colour of exoperidium, but differs in the smaller overall size, the larger reticulate or foveolate spores and sessile basidiocarp.

5. *Thelephora ganbajun* Zang is a widely distributed species occurring throughout the Kunming plateau, it seems forming ectomycorrhiza with *Pinus*, obviously associated with *Pinus yunnanensis* Fr.

Some precious reports (Yan, Zang, Zhang etc.) concerning the Ganbajun (干巴菌) in Yunnan have been determined as *Sparassis crispa* (Wulf.) Fr. The author subsequently determined that it was misidentified and is, in fact, it would be nice to place the correct Ganbajun's nomenclature in genus *Thelephora* and considering it as a new species *Thelephora ganbajun*, it might be accepted as being more resonable. It appears to be an abundantly characterized the new species, probably close to *Thelephora robusta* Corner, which differs by the hyaline and brownish spores and shorter basidia (25—35 μm), however the larger basidia of *Thelephora robusta* Corner, is often longer than 75—100 μm.

Key words Mycotaxon, E. Himalayas